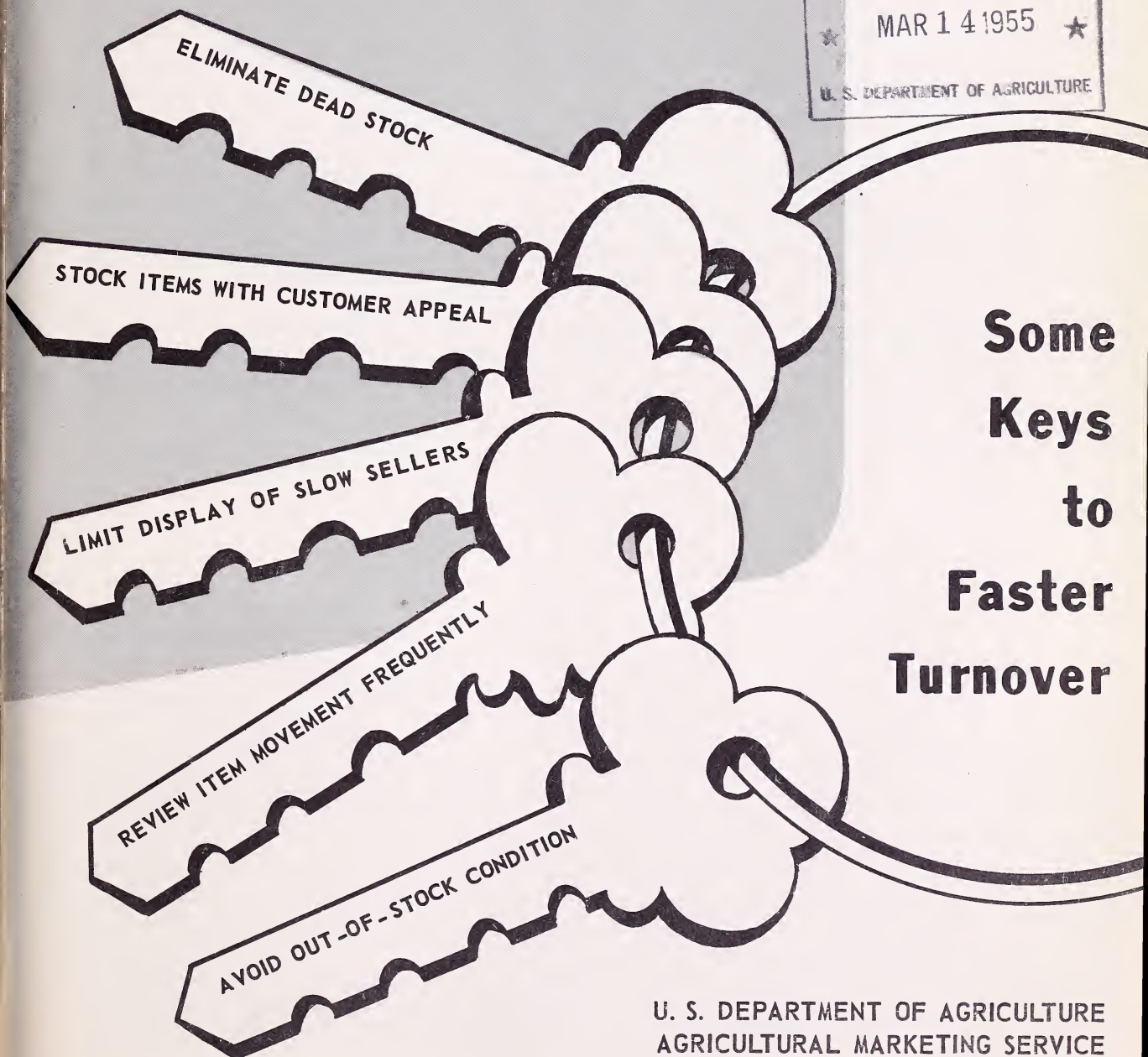
SPACE ALLOCATION FOR GROCERY ITEMS IN FOOD STORES



Some Keys to Faster Turnover

U. S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
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PREFACE

This report is based on research undertaken to aid retailers in reducing the cost of food distribution by developing better utilization of selling space in retail food stores.

The plans and procedures of this study were approved in 1953 by the officers and directors of the National Association of Retail Grocers: V. L. Browner, president, Des Moines, Iowa; Alvin V. Hokanson (elected president at 1954 convention), Porter, Ind.; Ray Cowperthwaite, treasurer, Bushnell, Ill.; Gerard Klomp, past president, Ogden, Utah; W. H. Crawford, El Monte, Calif.; Scott Detrick, Louisville, Ky.; R. J. Frederick, Beaver Dam, Wis.; R. C. Houlihan, Fort Worth, Texas; and O. A. Swaringen, Concord, N. C.

The authors wish to express appreciation to Mrs. R. M. Kiefer, secretary-manager of the National Association of Retail Grocers, for assistance in summarizing the statistical data; Don Fisher, secretary of Iowa Retail Food Dealers Association; and Harold P. Echternach, secretary of the Illinois Retail Grocers Association, for assistance in obtaining wholesaler participation; Roger J. Kasper, general manager, and F. W. Saville, and E. C. Johnston, supervisors, of the Grocers Wholesale Co-op Co., Des Moines, Iowa; Russell W. Byerly, general manager, and Lowell Janke and Victor Schmidt, supervisors, of the Winston-Newell Co., Des Moines, Iowa; and Herbert R. Rheinhardt, sales manager, and Wayne L. Johnson and Russell Wheeler, supervisors, of the Bunn-Capitol Wholesale Grocery Co., Bloomington, Ill., for assistance in selecting participating stores and taking inventories.

R. W. Hoecker, head, Wholesaling and Retailing Section, Transportation and Facilities Branch, Agricultural Marketing Service, U. S. Department of Agriculture, directed the preparation of this report.

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The study on which this report is based was conducted under authority of the Agricultural Marketing Act of 1946 (RMA, Title II).

SUMMARY AND CONCLUSIONS

A study of the sales and inventories of 11 retail food stores, on which this report is based, revealed that approximately 30 percent of the grocery items studied had average sales of one unit per week or less.

Retail food sales in 9 of the stores, in which 15 or more categories of groceries were surveyed, showed that at least 29 percent of the 700 to 1,000 items studied in each store had sales of 10 units or less during a 4-week period. Four of the stores sold 10 units or less of more than half the items displayed. The averages for the 9 stores showed the following: 6.5 percent of all items studied with no sales during the 4-week period; 23.4 percent of all items with 1 through 5 unit sales; 13.8 percent with 6 through 10 units; 18.3 percent with 11 through 20 units; 10.8 percent with 21 through 30 units; and 27.2 percent of all items observed with sales over 30 units in 4 weeks.

The main factors accounting for items that either moved slowly or did not sell at all were: (1) Failure to eliminate nonselling stock; (2) brand duplication of slow-selling items; and (3) duplication of unit sizes in the same price range.

This report indicates the need for a periodic and systematic examination of the movement of most items stocked in retail food stores. The practices surveyed indicated that many slow-moving and nonselling items were being stocked which could be advantageously discontinued and replaced by items that would be in more demand. Thus by increasing sales and turnover and reducing *outs* (out-of-stock situations), the operation would become more profitable and would serve customers better.

To obtain the greatest advantage of stocking in relation to turnover, the sales for each item should be analyzed separately. After the sales record for each item has been obtained, retailers could follow the same procedure in making adjustments in their displays as was followed in the retail stores surveyed in this study.

The check on sales should be made periodically and the necessary adjustments in stocking repeated. Items that sell well today may have a considerably different sales performance 6 months or a year from now.

This study raises a number of questions:

(1) Should cases of slow-moving items be broken at the warehouse?

(2) Should some merchandise be packed in smaller cases? Would this result in wider distribution and more sales? How much would this add to the cost of packaging and handling?

(3) Should display shelves be made more shallow and with additional shelves to allow for more display space?

(4) How can slow-moving and nonselling items be detected?

(5) How many brands, items, and unit sizes should be stocked?

SPACE ALLOCATION FOR GROCERY ITEMS IN FOOD STORES

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INTRODUCTION

As supermarkets have expanded toward one-stop shopping centers, the competition for space within the stores has become acute. There are increased space requirements for new departments, new merchandise, more categories, additional items for existing categories, preparation areas and temporary storage in back rooms, wider aisles, check stands, and shopping carts. The need for and high cost of display space has emphasized the importance of securing a relatively high rate of turnover for all items. Previous research has indicated that the income of retail stores probably can be increased by increasing stock turnover.

Food retailers, faced with higher rentals, building, labor, and other costs, realize that margins are meaningless unless related to turnover. Thus, turnover consistent with sound merchandising and stocking practices has become one of the major factors in lowering the cost of food distribution.

OBJECTIVES AND PROCEDURE

The object of this study was to help reduce costs of retailing foods by improving the allocation of selling space. This was undertaken by: (1) Examining the stocking procedures of 11 retail food stores with different management, sizes, and locations; (2) examining the effectiveness of their present shelf space allocations; (3) developing a stocking plan for allocation of selling space in relation to item sales performance; (4) attempting to increase turnover in existing items; and (5) making it possible for stores to carry a bigger selection of merchandise without appreciably increasing investment in floor space.

Nine successfully operated retail food stores in the Midwest and 2 located on the Atlantic seaboard were chosen as case studies. Total annual sales for the stores ranged from $150,000 to $2,500,000. The stores were located in cities ranging in population from about 2,000 to 1,000,000. Nineteen grocery categories with low seasonal variations were selected. Records were obtained for a 4-week period.

During the 4-week period no changes were made in the display of the items studied. The existing numbers of rows, units, and shelf positions were maintained. Out-of-stock conditions were guarded against and other influences that might affect normal sales were eliminated insofar as possible. The following categories were studied:

1/ President from July 1952 to July 1954.

1. Pickles, olives and relish
2. Baking supplies
3. Canned juices
4. Oils and salad dressing
5. Cereals
6. Beverages (soft drinks not included)
7. Baby foods
8. Spreads
9. Soups
10. Condiments
11. Canned vegetables
12. Canned fruits
13. Canned meat and chicken
14. Canned fish
15. Canned milk
16. Sugar
17. Pet foods
18. Soaps
19. Dietetic foods

For each of the 9 midwestern stores at least 15 of the above categories were studied. For each of the 2 stores on the Atlantic seaboard only the canned fruit and vegetable categories were considered.

Sales for each store were determined in physical units by: (1) Obtaining at the beginning of the 4-week period an opening inventory (shelf and back room) of the items in each category studied; (2) recording all deliveries of these items to the store during the period and adding them to the opening inventory; and (3) taking an inventory at the end of the period and subtracting the closing inventory of each item. A sample of the form on which records were kept is shown in figure 1. 2/

Sample of record form used to obtain detailed data on item sales for individual stores.

Opening inventory date:_____

Closing inventory date:_____

Name of category: Spreads Name of item Brand		Size of wgt.	No. of shelf rows	No. of units when full	Opening inventory shelf	Opening inventory back-room	Stock additions	Stock additions	Stock additions	Stock additions	Closing inventory shelf	Closing inventory back-room	No. of units sold	Your turn-over suggestion	Proposed no. of units for adjustment
Column numbers		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Rasp. jelly	C.	6 oz.	3	42	17	–	24	–	–	–	36	–	5	–	–
Crunch peanut butter	C.	12 oz.	6	30	24	–	24	–	–	24	37	–	35	–	–
Crunch peanut butter	F.	18 oz.	2	36	29	–	–	24	–	96	42	2	105	–	–
Cream peanut butter	F.	18 oz.	3	54	51	–	–	24	–		51	–	24	–	–

Figure 1.

Description of Participating Stores

Store A had an approximate total annual sales volume of $150,000; Store C, $400,000; and Store E, $500,000. These three stores are in small cities with no industry, and depend principally on farm trade.

2/ More detailed examples of the data obtained from the use of this form are being prepared at NARGUS headquarters, 360 North Michigan Avenue, Chicago, Ill.

Store B, with an approximate total annual sales volume of $300,000, is in a suburban area and receives its patronage from customers in the medium- and high-income groups. Store D, with a sales volume of $450,000, also is in a suburban area but draws its trade from the middle- and low-income groups.

Store G, with an approximate total annual sales volume of $800,000, obtains its patronage mainly from colleges, State institutions, industrial workers, and farmers. Store H, with a sales volume of $900,000, and Store I, with a sales volume of $1,500,000, are in industrial centers and obtain most of their business from industrial workers. Store F, with a sales volume of $650,000, is located in a small city within 10 miles of an industrial center and depends upon farmers and industrial workers for patronage. Store J, with a sales volume of $1,500,000, has a suburban location close to a city of about a million population. Its business is obtained from people in the middle-income group. Store K, with a sales volume of $2,500,000, is in a city of approximately a million population and is patronized largely by customers with below average incomes.

Definition of Terms

Terms used in this report are defined as follows: (1) *Unit*--a single can or package of merchandise--that is, 1 can of soup or 1 package of cereal; (2) *item*--units of identical merchandise--for example, 1 brand, size, and kind of cereal; (3) *brand*--company name or trade name identifying the product; (4) *category*--items of similar merchandise usually grouped together--for example, all brands, kinds, and sizes of soup, or of cereals; and (5) *turnover*--number of times per year that the quantity displayed on the shelf is sold. Turnover is computed by dividing the average weekly units sold during a 4-week period by the number of units in full display and multiplying by 52.

Variation Among Stores

The display, sales, and turnover data varied considerably among the 11 stores studied presumably because of differences in trade areas, competition, management, and size of stores. Therefore, the data from each store are presented separately in tables 1-11, pp. 8-17 by categories. These data are presented in the order of the total volume of store sales.

There was a relationship between the volume of the store sales and the number of items stocked, but this relationship was not as close as might be expected. For example, store B (table 1), with average weekly sales of 3,403 units for 16 categories, carried 884 items. On the other hand, store H (table 8), with average weekly sales of 9,284 units, or nearly 3 times that of store B, carried only 802 items in 16 comparable categories. Stores with the larger sales volume and store area tended to carry the same number of categories as the smaller stores but more items per category.

In 7 of the 11 stores, annual turnover of the categories studied averaged between 11 and 15; the 2 stores with the smallest sales volume averaged less than 10 annual turnovers. Stores J and K obtained a turnover of 14 and 18, respectively, in their canned fruit and vegetable categories.

There were considerable differences among the stores in the number of items stocked for which no sales were made during the 4 weeks of the study. All of the 9 stores in the Midwest had some items stocked in which no sales were made. The stores with the smaller

sales volume tended to have the greatest proportion of *dead* items in stock. The smallest-volume store had 115 items for which no sales were made (15 percent of the items stocked in 18 categories). On the other hand, store H, with an annual volume of about $900,000, had only 14 items, or 1.5 percent of the items in the 18 comparable categories, which did not sell.

The percentage of items with different numbers of units sold per item, in each of the 9 stores in which 15 or more categories were studied, are shown in figure 2. As can be noted from the figure, at least 29 percent of the items in all of the stores had sales of 10 units or less during the 4-week period. In 4 of the stores over half of the items carried had sales of 10 units or less during the same period. Although the stores with the smaller sales volume tended to carry the largest proportion of *dead* and slow-moving items, store D, with an annual volume of about $450,000, had the smallest proportion of slow-moving items. The percentage of items with over 30 units sold per item during the 4-week period varied from 13 percent for store B to 40.1 percent for store H.

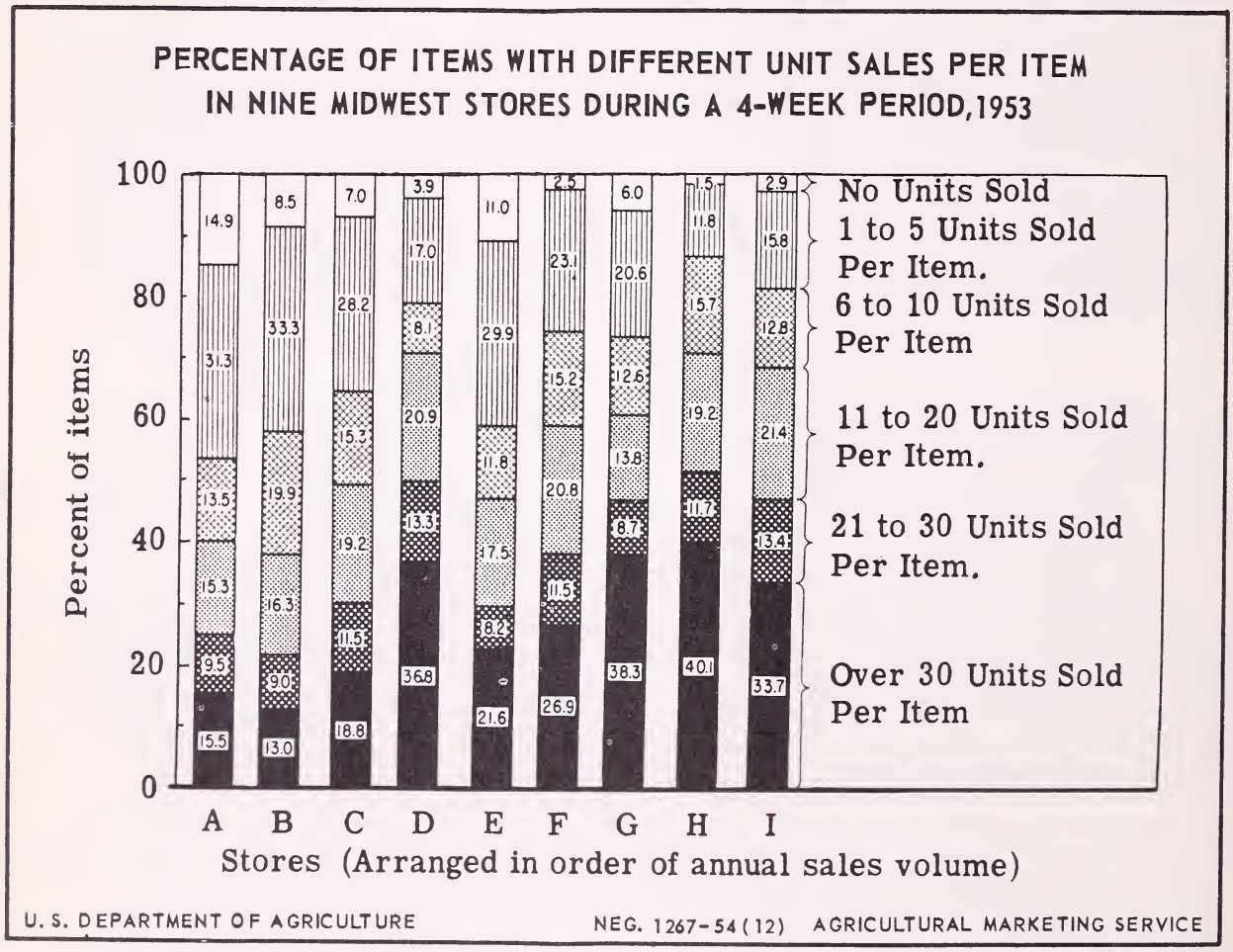

Figure 2.

Variation Among Categories

The experience of the stores studied was fairly consistent for some of the categories while it varied widely for others (table 12, p. 18). The turnover rate on the sugar and canned milk categories was relatively high for all stores except for canned milk in one store. Turnover rates for the pickle, olive, and relish category, and the canned meat and chicken category, were 10 or less for all stores except one for each of these categories.

Differences among stores in the turnover rate were small for the spread category, varying only from 8 to 11; however, for the condiment category the turnover rate varied from 6 to 40.

All of the individual stores had wide variations in the turnover rates for the categories studied and even wider variations among items. Among categories, the individual store with the greatest difference had a turnover of 4 for one category and of 120 for another; the corresponding figures for the store with the smallest difference were 4 and 34.

The problem of getting consistently high turnover appears universal for the 11 stores studied. Even store E, which had the highest average annual turnover rate of 20, had considerably lower turnover rates than the other stores for the canned meat and chicken category and the pet food category.

Also shown in table 12 are the number of brands carried in each category for each store. As was noted for items, the relationship between sales volume and number of brands stocked was not as close as was expected. In most cases the smaller volume stores carried practically as many brands and, in some instances, more brands than the larger stores. For example, store I carried 293 brands in 16 categories with weekly sales of 8,998 units while store B carried 314 brands in the same 16 categories with weekly sales of only 3,403 units.

Inspection of the individual store data indicates that slow item turnover is primarily the result of (1) too much space allocated to slow-selling or nonselling items; or (2) displaying several brands of the slow-selling items. However, data in table 12 do not consistently show that the stores with a relatively small number of brands have a higher rate of turnover than those stores with a relatively large number of brands.

For 15 comparable categories the relationship between the number of units sold and the number of items and brands stocked, the turnover, and the units sold per brand are summarized in table 13, p. 19. Although the 3 largest stores of the group of 9 sold 228 percent more units than the 3 smallest stores, these 3 largest stores stocked only 19 percent more items and 10 percent more brands. Hence, units sold per brand were considerably higher in the group of largest stores. Annual turnover was essentially the same for the medium-sized and large stores.

Display Adjustments Made in Stores

None of the 11 operators included in this study had followed a systematic stocking plan. They applied the findings made on their stores by the following procedures:

1. They discontinued handling nonselling items and many of the slow-moving items for which comparable items of other brands or other sizes of the same brand were stocked.

2. On the basis of the sales performance of each item during the test period, and consistent with what the operator, wholesaler supervisor, and researcher believed to be good merchandising and stocking practices, they stocked most shelf displays in the following manner:

a. Very fast moving items--less than one week's supply was stocked to obtain more than 52 turnovers per year.

b. Fast moving items--between 1 and 2 week's supply was stocked to obtain more than 26 turnovers per year.

c. Medium moving items--about a 2 weeks' supply was stocked to obtain about 26 turnovers per year.

d. Slow-moving items--a minimum display was stocked.

Some modification in applying the plan described was necessitated by such considerations as (1) store size in relation to total sales and number of items carried, (2) stocking full rows, (3) margin differentials, (4) shelf positions, and (5) number of units packed in a case.

3. Stocked new items which the operators thought would sell well in their stores, in the space made available through the discontinuance of nonselling items and smaller shelf displays for slow-moving ones.

Smaller cases of slow-moving items would aid retailers in more closely adjusting the size of displays to the sales of these items and would help to obtain a higher turnover rate for them. For example, an item packed in a case containing 48 units and with sales potential of 1 to 5 units per week makes it impossible to obtain a satisfactory turnover in relation to stocks on hand.

Tables, 14, 15, and 16, pp. 20-22, show the adjustments made in the 3 stores for which complete data were available. A comparison of the numbers of items, rows, and units remaining on display after the adjustments with those for displays during the survey in stores B, C, and H is shown graphically in figure 3. New adjustments in the allocation of shelf space should be made in these stores as additional information is obtained on the turnover of the items displayed.

Among the 16 or more categories reported in these 3 stores, the operators discontinued handling an average of 10 percent of the items formerly stocked and reduced the number of units displayed by about 30 percent. Considerable space was thus made available for new items which, if selected wisely, could add considerably to store sales. Store B made the largest proportionate overall reduction of items and units displayed, while store C made the smallest. Store H made a relatively small reduction in number of items carried but a large reduction in the display of the items carried.

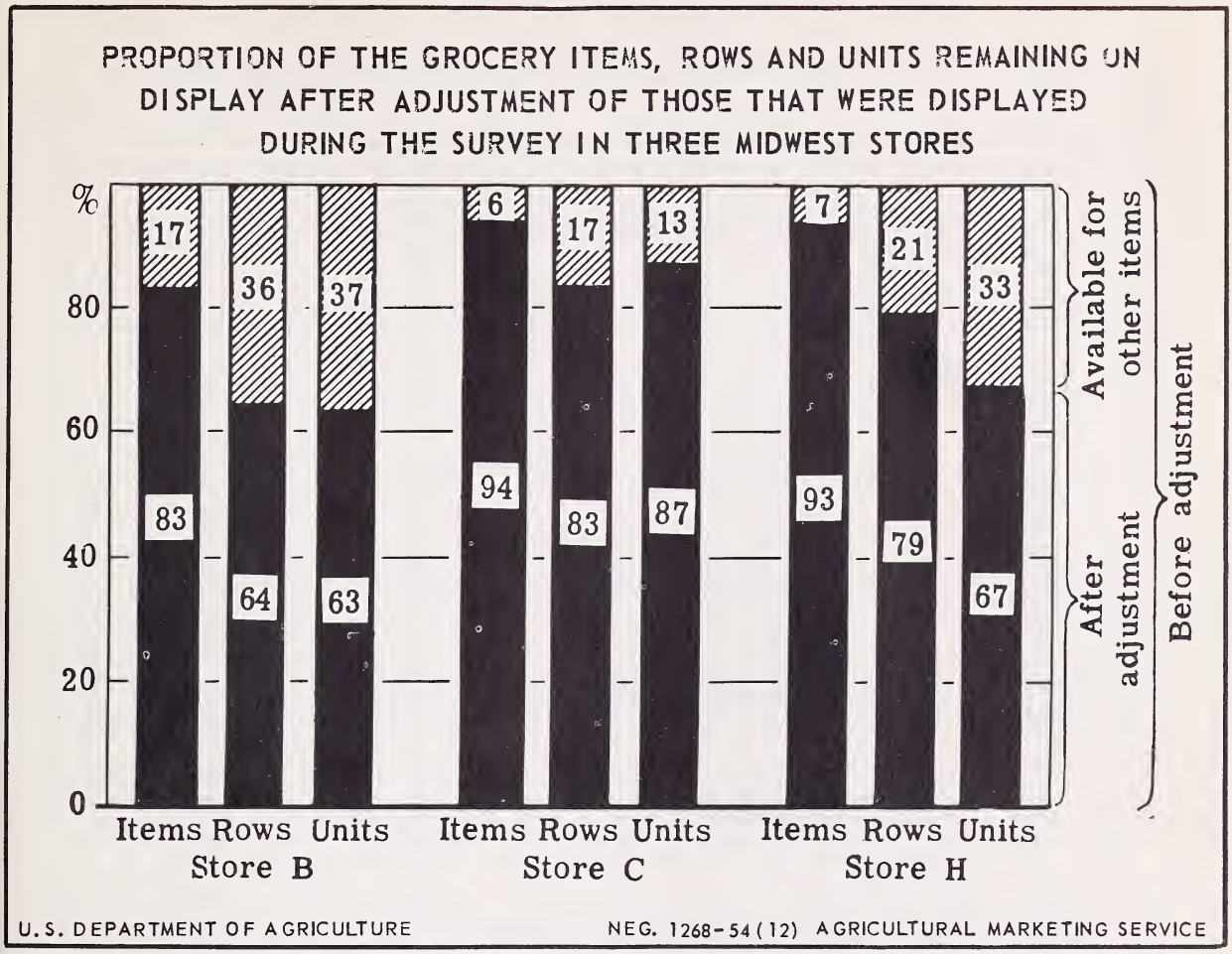
PROPORTION OF THE GROCERY ITEMS, ROWS AND UNITS REMAINING ON DISPLAY AFTER ADJUSTMENT OF THOSE THAT WERE DISPLAYED DURING THE SURVEY IN THREE MIDWEST STORES
%
80
60
40
20
0
17
83
36
64
37
63
6
94
17
83
13
87
7
93
21
79
33
67
Available for other items
After adjustment
Before adjustment
Items Rows Units
Store B
Items Rows Units
Store C
Items Rows Units
Store H
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Figure 3.

Table 1.--Display, sales, and turnover of selected grocery items of store A, located in a small city, with annual sales of approximately $150,000 for 4-week period, July 20-August 17, 1953 1/

Category	Items displayed	Rows displayed	Units in full display	Units sold	Average weekly units sold	Annual rate of turnover	Items for which unit sales were: None	1 to 5	6 to 10	11 to 20	21 to 30	31 and over
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Pickles, olives, relish	65	103	722	318	80	6	22	22	11	8	1	1
Baking supplies	68	115	1,465	617	154	5	10	22	17	10	6	3
Oils and salad dressing	29	58	403	285	71	9	1	12	5	7	3	1
Beverages	36	118	1,741	619	155	5	8	8	6	4	3	7
Cereals	49	90	1,726	392	98	3	4	19	9	15	2	0
Baby foods	62	105	1,901	928	232	6	8	19	7	10	4	14
Soups	21	56	716	290	73	5	5	9	1	0	2	4
Condiments	38	61	614	278	70	6	10	13	5	6	2	2
Canned juices	43	76	868	1,060	265	16	1	7	3	9	12	11
Canned vegetables	124	243	3,815	2,021	505	7	21	39	12	11	21	20
Canned fruits	78	169	2,552	1,663	416	8	11	25	9	9	8	16
Canned meat and chicken	36	68	810	233	58	4	7	18	6	1	1	3
Canned fish	19	40	652	266	67	5	1	9	3	3	1	2
Canned milk	10	28	866	330	83	5	2	0	1	2	0	5
Sugar	8	16	227	683	171	39	0	2	0	1	0	5
Pet foods	16	26	435	686	172	21	1	2	2	4	0	7
Soaps	47	81	2,483	1,334	334	7	0	7	5	16	4	15
Spreads	23	51	468	311	78	9	3	9	2	2	3	4
Total or average	772	1,504	22,464	12,314	3,079	7	115	242	104	118	73	120

1/ For definition of terms see text.

Note: Of the 772 items studied, 461 items or 60 percent had sales of 10 units or less per item; 115 items or 15 percent produced no unit sales during the 4 weeks studied.

Table 2.--Display, sales, and turnover of selected grocery items of store B, located in a suburban area, with annual sales of approximately $300,000 for 4-week period, July 20-August 17, 1953 1/

Category	Items displayed	Rows displayed	Units in full display	Units sold	Average weekly units sold	Annual rate of turnover	Items for which unit sales were: None	1 to 5	6 to 10	11 to 20	21 to 30	31 and over
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Pickles, olives, relish	82	155	1,997	559	140	4	18	35	13	9	3	4
Baking supplies	93	127	1,760	1,101	275	8	6	35	19	17	9	7
Oils and salad dressing	49	81	618	486	122	10	1	22	9	9	5	3
Beverages	82	117	1,469	1,492	373	13	13	25	13	6	9	16
Cereals	63	117	922	809	202	11	5	19	9	15	8	7
Soups	28	64	1,125	947	237	11	1	5	6	2	1	13
Condiments	41	75	617	528	132	11	3	12	5	13	4	4
Canned juices	41	67	828	750	188	12	2	10	6	8	6	9
Canned vegetables	117	229	3,696	1,789	447	6	6	33	29	24	12	13
Canned fruits	77	163	2,160	1,013	253	6	5	24	12	18	11	7
Canned meat and chicken	57	84	1,347	543	136	5	9	21	9	7	7	4
Canned fish	38	54	1,429	574	144	5	5	11	8	8	1	5
Canned milk	8	17	356	475	119	17	0	2	1	1	2	2
Sugar	10	15	201	522	131	34	0	2	2	0	1	5
Pet foods	37	74	816	1,256	314	20	0	14	7	4	0	12
Spreads	61	90	1,024	767	192	10	1	24	28	3	1	4
Total or average	884	1,529	20,365	13,611	3,403	9	75	294	176	144	80	115

1/ For definition of terms see text.

Note: Of the 884 items studied, 545 items or 62 percent had sales of 10 units or less per item; 75 items or 8 percent produced no unit sales during the 4 weeks studied.

Table 3.--Display, sales, and turnover of selected grocery items of store C, located in a small city, with annual sales of approximately $400,000 for 4-week period, July 8-August 5, 1953 1/

Category	Items displayed	Rows displayed	Units in full display	Units sold	Average weekly units sold	Annual rate of turnover	Items for which unit sales were: None	1 to 5	6 to 10	11 to 20	21 to 30	31 and over
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Pickles, olives, relish	38	86	587	383	96	8	5	13	6	6	7	1
Baking supplies	76	99	902	1,647	412	24	5	16	11	20	8	16
Oils and salad dressing	32	68	480	454	114	12	1	12	4	10	1	4
Beverages	48	64	574	1,325	331	30	4	15	7	9	3	10
Cereals	49	50	722	1,576	394	28	1	7	1	8	12	20
Baby foods	77	79	1,404	1,023	256	9	4	28	11	13	13	8
Soups	36	68	1,082	865	216	10	4	8	4	9	1	10
Condiments	29	65	457	528	132	15	5	10	2	5	4	3
Canned juices	32	44	404	666	167	21	1	11	5	5	3	7
Canned vegetables	85	170	1,917	1,672	418	11	6	27	9	17	10	16
Canned fruits	71	146	1,401	1,053	263	10	3	19	16	16	6	11
Canned meat and chicken	37	62	768	453	113	8	4	14	7	4	4	4
Canned fish	19	34	596	429	107	9	1	4	3	1	3	7
Canned milk	6	15	414	738	185	23	0	0	1	0	0	5
Sugar	7	16	125	915	229	94	0	0	1	0	0	6
Pet foods	20	30	267	261	65	13	1	4	6	4	4	1
Spreads	50	100	767	572	143	10	4	13	15	10	3	5
Total or average	712	1,196	12,867	14,560	3,640	15	49	201	109	137	82	134

1/ For definition of terms see text.

Note: Of the 712 items studied, 359 items or 50 percent had sales of 10 units or less per item; 49 items or 7 percent produced no unit sales during the 4 weeks studied.

Table 4.--Display, sales, and turnover of selected grocery items of store D, located in a suburban area, with annual sales of approximately $450,000 for 4-week period, July 14-August 11, 1953 1/

Category	Items displayed	Rows displayed	Units in full display	Units sold	Average weekly units sold	Annual rate of turnover	Items for which unit sales were: None	1 to 5	6 to 10	11 to 20	21 to 30	31 and over
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Pickles, olives, relish	46	115	1,212	640	160	7	2	9	6	20	7	2
Baking supplies	85	154	2,214	2,361	590	14	3	17	14	22	9	20
Oils and salad dressing	31	71	768	1,091	273	18	4	2	1	10	5	9
Beverages	58	102	1,640	1,880	470	15	1	12	5	13	6	21
Cereals	57	95	1,426	1,736	434	16	1	12	3	9	9	23
Baby foods	48	148	2,770	2,783	696	13	0	1	1	4	6	36
Soups	27	132	2,571	1,729	432	9	2	4	1	5	2	13
Condiments	42	108	948	822	206	11	4	12	5	8	4	9
Canned juices	28	62	565	781	195	18	2	7	1	3	3	12
Canned vegetables	90	242	3,621	4,032	1,008	14	3	5	3	22	16	41
Canned fruits	57	133	1,922	1,565	391	11	3	9	6	7	10	22
Canned meat and chicken	51	99	1,736	851	213	6	2	17	5	13	7	7
Canned fish	20	40	1,040	817	204	10	0	7	1	3	1	8
Canned milk	7	30	522	901	225	22	0	0	0	0	2	5
Sugar	11	47	382	1,332	333	45	1	1	1	1	1	6
Pet foods	26	73	821	1,886	472	30	1	1	3	7	2	12
Soaps	51	88	3,157	3,384	846	14	0	2	1	7	6	35
Spreads	56	136	1,809	1,362	341	10	2	16	7	12	9	10
Total or average	791	1,875	29,124	29,953	7,488	13	31	134	64	166	105	291

1/ For definition of terms see text.

Note: Of the 791 items studied, 229 items or 29 percent had sales of 10 units or less per item; 31 items or 4 percent produced no unit sales during the 4 weeks studied.

Table 5.--Display, sales, and turnover of selected grocery items in store E, located in a small city, with annual sales of approximately $500,000 for 4-week period, July 14-August 11, 1953 1/

Category	Items displayed	Rows displayed	Units in full display	Units sold	Average weekly units sold	Annual rate of turnover	Items for which unit sales were: None	1 to 5	6 to 10	11 to 20	21 to 30	31 and over
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Pickles, olives, relish	32	50	510	621	155	16	3	14	5	3	1	6
Baking supplies	90	102	1,382	2,088	522	20	6	18	11	27	12	16
Oils and salad dressing	34	40	294	552	138	24	7	14	4	4	0	5
Cereals	58	64	995	2,672	668	35	2	8	7	8	8	25
Soups	23	33	541	794	199	19	4	8	0	5	0	6
Condiments	21	36	286	877	219	40	1	4	3	2	2	9
Canned juices	35	44	411	522	131	17	4	11	5	4	5	6
Canned vegetables	98	119	1,764	2,968	742	22	10	24	6	23	8	27
Canned fruits	70	77	1,248	1,067	267	11	6	24	13	11	4	12
Canned meat and chicken	70	82	1,628	537	134	4	16	34	4	9	5	2
Canned fish	29	34	1,201	1,705	426	18	4	7	3	5	3	7
Canned milk	9	15	402	1,331	333	43	0	1	1	3	0	4
Sugar	10	16	189	1,749	437	120	1	1	0	1	0	7
Pet foods	30	36	491	459	115	12	4	15	3	2	0	6
Spreads	36	37	480	387	96	10	3	10	11	6	5	1
Total or average	645	785	11,822	18,329	4,582	20	71	193	76	113	53	139

1/ For definition of terms see text.

Note: Of the 645 items studied, 340 or 53 percent had sales of 10 units or less per item; 71 items or 11 percent produced no unit sales during the 4 weeks studied.

Table 6.--Display, sales, and turnover of selected grocery items in store F, located in a small city, with annual sales of approximately $650,000 for 4-week period, July 15-August 12, 1953 1/

Category	Items displayed	Rows displayed	Units in full display	Units sold	Average weekly units sold	Annual rate of turnover	Items for which unit sales were: None	1 to 5	6 to 10	11 to 20	21 to 30	31 and over
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Pickles, olives, relish	53	154	1,311	589	147	6	2	21	10	14	1	5
Baking supplies	103	172	2,111	2,682	671	17	3	17	15	23	19	26
Oils and salad dressing	39	94	643	723	181	15	1	13	5	14	1	5
Beverages	61	141	2,374	2,245	561	12	2	17	10	8	7	17
Cereals	69	130	1,920	2,406	602	16	1	12	7	8	9	32
Baby foods	97	199	3,867	2,580	645	9	1	13	8	26	21	28
Soups	34	93	2,037	1,305	326	8	1	9	4	7	2	11
Condiments	49	145	1,066	1,424	356	17	1	18	6	6	7	11
Canned juices	56	152	1,221	1,798	450	19	3	9	7	16	6	15
Canned vegetables	145	436	5,631	3,185	796	7	3	36	30	26	17	33
Canned fruits	97	236	2,621	3,451	863	17	3	20	15	21	15	23
Canned meat and chicken	52	122	2,604	654	164	3	2	21	9	16	1	3
Canned fish	23	43	1,611	764	191	6	0	5	4	7	3	4
Canned milk	12	27	852	1,186	297	18	0	1	3	1	1	6
Sugar	8	22	437	2,577	644	77	0	1	0	1	0	6
Pet foods	37	73	1,438	1,075	269	10	2	14	7	1	1	12
Soaps	68	116	4,144	3,490	873	11	0	4	4	12	7	41
Spreads	58	131	1,443	1,095	274	10	2	14	17	14	4	7
Total or average	1,061	2,486	37,331	33,229	8,307	12	27	245	161	221	122	285

1/ For definition of terms see text.

Note: Of the 1,061 items studied, 433 items or 41 percent had sales of 10 units or less per item; 27 items or 3 percent produced no unit sales during the 4 weeks studied.

Table 7.--Display, sales, and turnover of selected grocery items in store G, located in a medium sized city, with annual sales of approximately $800,000 for 4-week period, July 16-August 13, 1953 1/

Category	Items displayed	Rows displayed	Units in full display	Units sold	Average weekly units sold	Annual rate of turnover	Items for which unit sales were: None	1 to 5	6 to 10	11 to 20	21 to 30	31 and over
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Pickles, olives, relish	52	105	1,239	839	210	9	4	19	12	7	3	7
Baking supplies	141	229	5,509	3,490	873	8	10	37	27	17	21	29
Oils and salad dressing	44	83	1,264	2,051	513	21	0	5	2	7	7	23
Beverages	84	164	3,211	2,993	748	12	4	21	11	16	9	23
Cereals	76	122	3,133	1,120	280	5	7	18	15	21	5	10
Baby foods	65	-	3,858	5,598	1,400	19	1	2	1	2	7	52
Soups	32	81	2,028	2,076	519	13	0	12	2	2	1	15
Condiments	42	77	1,311	3,310	828	33	1	8	4	4	5	20
Canned juices	61	137	2,420	3,433	858	18	3	5	4	6	7	36
Canned vegetables	128	279	6,747	12,442	3,111	24	1	10	9	13	8	87
Canned fruits	80	158	3,490	1,813	453	7	8	15	21	12	3	21
Canned meat and chicken	62	107	2,242	534	134	3	10	29	7	10	1	5
Canned fish	37	62	2,131	757	189	5	7	11	4	4	3	8
Canned milk	15	42	1,715	2,729	682	21	0	0	1	3	1	10
Sugar	11	47	991	2,969	742	39	0	3	1	0	1	6
Pet foods	40	69	1,974	2,226	557	15	2	11	6	6	0	15
Soaps	71	101	6,459	7,353	1,838	15	2	6	4	9	4	46
Spreads	59	104	1,505	894	224	8	6	15	8	12	10	8
Total or average	1,100	1,967	51,227	56,627	14,157	14	66	227	139	151	96	421

1/ For definition of terms see text.

Note: Of the 1,100 items studied, 432 items or 39 percent had sales of 10 units or less per item; 66 items or 6 percent produced no unit sales during the 4 weeks studied.

Table 8.--Display, sales, and turnover of selected grocery items in store H, located in a medium sized city, with annual sales of approximately $900,000 for 4-week period, July 7-August 4, 1953 1/

Category	Items displayed	Rows displayed	Units in full display	Units sold	Average weekly units sold	Annual rate of turnover	Items for which unit sales were: None	1 to 5	6 to 10	11 to 20	21 to 30	31 and over
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Pickles, olives, relish	70	200	1,782	1,177	294	9	2	14	15	21	7	11
Baking supplies	78	110	3,016	2,787	697	12	1	9	11	19	13	25
Oils and salad dressing	45	122	853	1,022	256	16	2	5	14	9	5	10
Beverages	52	91	2,058	1,646	412	10	0	8	11	12	6	15
Cereals	67	82	2,786	3,583	896	17	0	4	7	8	13	35
Baby foods	96	216	4,811	4,702	1,176	13	1	1	7	14	10	63
Soups	26	82	2,982	2,567	642	11	0	3	3	3	3	14
Condiments	42	114	1,277	1,466	367	15	1	11	7	6	2	15
Canned juices	35	105	1,633	1,611	403	13	0	1	4	9	2	19
Canned vegetables	124	362	10,471	6,190	1,548	8	3	6	16	25	15	59
Canned fruits	78	231	4,921	2,849	712	8	1	11	9	10	14	33
Canned meat and chicken	53	118	2,087	2,971	743	18	0	8	8	14	4	19
Canned fish	27	62	1,387	972	243	9	2	4	8	3	0	10
Canned milk	5	16	956	1,968	492	27	0	0	0	1	0	4
Sugar	6	21	586	2,779	695	62	0	0	1	2	0	3
Pet foods	30	101	1,371	2,032	508	19	0	1	5	4	3	17
Spreads	64	138	1,788	1,515	379	11	1	11	12	12	11	17
Dietetics	23	58	633	151	38	3	0	12	7	4	0	0
Total or average	921	2,229	45,398	41,988	10,497	12	14	109	145	176	108	369

1/ For definition of terms see text.

Note: Of the 921 items studied, 268 items or 29 percent had sales of 10 units or less per item; 14 items or 2 percent produced no unit sales during the 4 weeks studied.

Table 9.--Display, sales, and turnover of selected grocery items in store I, located in a medium-sized city, with annual sales of approximately $1,500,000 for 4-week period July 22-August 19, 1953 1/

Category	Items displayed	Rows displayed	Units in full display	Units sold	Average weekly units sold	Annual rate of turnover	Items for which unit sales were: None	1 to 5	6 to 10	11 to 20	21 to 30	31 and over
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Pickles, olives, relish	54	105	1,660	1,214	304	10	4	9	9	13	8	11
Baking supplies	92	175	2,743	2,173	543	10	2	15	19	26	12	18
Oils and salad dressing	35	66	836	715	179	11	4	14	3	3	3	8
Beverages	74	231	3,038	1,308	327	6	1	24	12	18	11	8
Cereals	63	105	2,081	3,162	791	20	0	3	5	12	6	37
Baby foods	87	-	5,000	3,373	843	9	1	4	6	16	14	46
Soups	33	93	2,665	2,542	636	13	0	4	2	8	2	17
Condiments	38	60	1,362	1,753	438	17	0	4	7	11	5	11
Canned juices	39	71	1,193	1,500	375	16	0	4	6	7	6	16
Canned vegetables	123	227	6,759	6,064	1,516	12	3	12	7	22	25	54
Canned fruits	76	179	2,673	2,245	561	11	2	12	8	19	15	20
Canned meat and chicken	62	114	1,994	1,622	406	10	4	14	8	12	5	19
Canned fish	24	31	997	1,052	263	14	0	5	3	5	1	10
Canned milk	13	31	1,330	3,804	951	37	0	1	1	2	0	9
Sugar	13	37	938	2,769	692	38	0	0	0	3	1	9
Pet foods	44	79	1,960	3,216	804	21	2	10	9	10	1	12
Spreads	55	102	1,392	852	213	8	4	11	13	11	9	7
Total or average	925	1,706	38,621	39,364	9,841	13	27	146	118	198	124	312

1/ For definition of terms see text.

Note: Of the 925 items studied, 291 items or 31 percent had sales of 10 units or less per item; 27 items or 3 percent produced no unit sales during the 4 weeks studied.

Table 10.--Display, sales, and turnover of entire canned fruit and vegetable items in store J, located in a large suburban area with annual sales of approximately $1,500,000 for 4-week period November 19-December 17, 1953 1/

Category	Items displayed	Rows displayed	Units in full display	Units sold	Average weekly units sold	Annual rate of turnover	Items for which unit sales were: None	1 to 5	6 to 10	11 to 20	21 to 30	31 and over
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Canned vegetables	154	422	9,751	12,491	3,123	17	1	1	6	11	18	117
Canned fruits	130	347	7,687	6,550	1,638	11	0	1	7	24	20	78
Total or average	284	769	17,438	19,041	4,760	14	1	2	13	35	38	195

1/ For definition of terms see text.

Note: Of the 284 items studied, 16 items or 5.6 percent had sales of 10 units or less per item.

Table 11.--Display, sales, and turnover of entire canned fruit and vegetable items in store K, located in a large city with annual sales of approximately $2,500,000 for 4-week period November 10-December 8, 1953 1/

Category	Items displayed	Rows displayed	Units in full display	Units sold	Average weekly units sold	Annual rate of turnover	Items for which unit sales were: None	1 to 5	6 to 10	11 to 20	21 to 30	31 and over
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Canned vegetables	152	466	10,348	18,249	4,562	23	0	0	2	2	7	141
Canned fruits	129	394	8,092	7,657	1,914	12	0	4	6	15	19	85
Total or average	281	860	18,440	25,906	6,477	18	0	4	8	17	26	226

1/ For definition of terms see text.

Note: Of the 281 items studied, 12 items or 4.3 percent had sales of 10 units or less per item.

Table 12.--Annual turnover rate and number of brands stocked for categories studied in 9 stores, 4-week period, 1953

Item	Store A		Store B		Store C		Store D		Store E		Store F		Store G		Store H		Store I	
	Brands	Annual turnover	Brands	Annual turnover	Brands	Annual turnover	Brands	Annual turnover	Brands	Annual turnover	Brands	Annual turnover	Brands	Annual turnover	Brands	Annual turnover	Brands	Annual turnover
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Pickles, olives, relish	16	6	18	4	8	8	9	7	10	16	12	6	13	9	15	9	12	10
Baking supplies	20	5	33	8	30	24	31	14	39	20	36	17	44	8	25	12	26	10
Oils and salad dressing	9	9	15	10	10	12	8	16	14	24	10	15	11	21	14	16	13	11
Beverages	21	5	25	13	19	30	18	15	1/	-	22	12	21	12	16	10	30	6
Cereals	38	3	47	11	38	28	40	16	46	35	45	16	54	5	49	17	43	20
Baby foods	4	6	1/	1/	4	9	1	13	1/	-	2	9	5	19	2	13	2	9
Canned soups	1	5	4	11	3	10	3	9	1	19	2	8	3	13	2	11	2	13
Condiments	24	6	18	11	14	15	23	11	10	40	23	17	24	33	20	15	23	17
Canned juices	18	16	18	12	14	21	16	18	18	17	23	19	24	18	12	13	20	16
Canned vegetables	38	7	38	6	25	11	27	14	32	22	42	7	29	24	26	8	38	12
Canned fruits	15	8	19	6	19	10	21	11	21	11	24	17	20	7	20	8	18	11
Canned meat and chicken	13	4	19	5	11	8	19	6	24	4	15	3	24	3	13	18	10	10
Canned fish	14	5	25	5	14	9	15	10	22	18	14	6	21	5	17	9	17	14
Canned milk	7	5	5	17	3	23	5	22	6	43	7	18	8	21	3	27	7	37
Sugar	2	39	2	34	1	94	1	45	2	120	1	77	2	39	2	62	2	38
Pet foods	12	21	16	20	14	13	14	30	19	12	18	10	20	15	18	19	22	21
Soaps	29	7	1/	-	1/	-	31	14	1/	-	35	11	42	15	1/	-	1/	-
Spreads	10	9	12	10	10	10	13	10	10	10	11	10	12	8	8	11	10	8
Dietetics	1/	-	1/	-	1/	-	1/	-	1/	-	1/	-	1/	-	7	3	1/	-
Total or average	291	7	314	9	237	15	295	13	274	20	342	12	377	14	269	12	295	13
2/	Dol.		Dol.		Dol.		Dol.		Dol.		Dol.		Dol.		Dol.		Dol.	
Approximate total annual sales volume	150,000		300,000		400,000		450,000		500,000		650,000		800,000		900,000		1,500,000	

1/ Category not included in study.

2/ Weighted average: Units in full display divided by units sold per year.

Table 13.--Relation of number of units sold (4-week period) to number of items and brands stocked, turnover and units sold per brand for 15 comparable categories in 9 stores, 1953 1/

Store group by number of units sold	Items stocked	Brands stocked	Units in full display	Units sold	Average units sold per brand	Average annual turnover
	Number	Number	Number	Number	Number	Number
3 small	2,016	740	46,124	33,764	45.6	9.5
3 medium	2,114	802	60,325	65,149	81.2	14.0
3 large	2,394	816	105,978	110,855	135.8	13.6

1/ Even though items were duplicated among stores they were counted individually for each store.

Table 14.--Number of items, rows and units on display during the study and after adjustments in store B

Category	During the study			After the adjustments 1/		
	Items displayed	Rows displayed	Units in full display	Items displayed	Rows displayed	Units in full display
	Number	Number	Number	Number	Number	Number
Pickles, olives, relish	82	155	1,997	61	83	864
Baking supplies	93	127	1,760	77	100	1,167
Oils and salad dressing	49	81	618	40	53	413
Beverages	82	117	1,469	70	89	1,099
Cereals	63	117	922	57	85	984
Soups	28	64	1,125	26	53	946
Condiments	41	75	617	32	44	372
Canned juices	41	67	828	33	37	532
Canned vegetables	117	229	3,696	92	122	1,895
Canned fruits	77	163	2,160	66	83	1,091
Canned meat and chicken	57	84	1,347	49	53	890
Canned fish	38	54	1,429	31	35	910
Canned milk	8	17	356	8	17	376
Sugar	10	15	201	10	13	199
Pet foods	37	74	816	35	57	590
Spreads	61	90	1,024	46	54	565
Total	884	1,529	20,365	733	978	12,893
				Percent	Percent	Percent
Percent reduction				17	36	37

1/ Number of items, rows and units remaining on display of those that were displayed during the study. Space made available by the reduction in numbers was filled with new items in these and other categories.

Table 15.--Number of items, rows and units on display during the study and after adjustments in store C

Category	During the study			After the adjustments 1/		
	Items displayed	Rows displayed	Units in full display	Items displayed	Rows displayed	Units in full display
	Number	Number	Number	Number	Number	Number
Pickles, olives, relish	38	86	587	33	66	552
Baking supplies	76	99	902	74	90	879
Oils and salad dressing	32	68	480	30	58	449
Beverages	48	64	574	42	49	500
Cereals	49	50	722	46	47	660
Baby foods	77	79	1,404	77	77	1,417
Soups	36	68	1,082	34	52	657
Condiments	29	65	457	28	49	365
Canned juices	32	44	404	28	41	403
Canned vegetables	85	170	1,917	76	133	1,427
Canned fruits	71	146	1,401	68	113	1,049
Canned meat and chicken	37	62	768	32	48	672
Canned fish	19	34	596	18	32	548
Canned milk	6	15	414	6	14	354
Sugar	7	16	125	7	14	117
Pet foods	20	30	267	20	28	286
Spreads	50	100	767	48	80	809
Total	712	1,196	12,867	667	991	11,144
				Percent	Percent	Percent
Percent reduction				6	17	13

1/ Number of items, rows and units remaining on display of those that were displayed during the study. Space made available by the reduction in numbers was filled with new items in these and other categories.

Table 16.--Number of items, rows and units on display during the study and after adjustments in store H

Category	During the study			After the adjustments 1/		
	Items displayed	Rows displayed	Units in full display	Items displayed	Rows displayed	Units in full display
	Number	Number	Number	Number	Number	Number
Pickles, olives, relish	70	200	1,782	58	101	1,076
Baking supplies	78	110	3,016	72	89	2,109
Oils and salad dressing	45	122	853	43	84	654
Beverages	52	91	2,058	49	68	1,308
Cereals	67	82	2,786	63	82	1,992
Baby foods	96	216	4,811	94	215	3,712
Soups	26	82	2,982	25	63	2,258
Condiments	42	114	1,277	39	68	600
Canned juices	35	105	1,633	34	88	954
Canned vegetables	124	362	10,471	113	289	6,433
Canned fruits	78	231	4,921	76	211	3,060
Canned meat and chicken	53	118	2,087	44	81	1,324
Canned fish	27	62	1,387	25	47	1,020
Canned milk	5	16	956	5	15	594
Sugar	6	21	586	5	18	556
Pet foods	30	101	1,371	30	94	921
Spreads	64	138	1,788	62	99	1,195
Dietetics	23	58	633	23	42	430
Total	921	2,229	45,398	860	1,754	30,196
				Percent	Percent	Percent
Percent reduction				7	21	33

1/ Number of items, rows and units remaining on display of those that were displayed during the study. Space made available by the reduction in numbers was filled with new items in these and other categories.

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